

THE SPECIES OF *MALVA* L. AND *LAVATERA* L. (MALVACEAE) NATURALIZED IN SOUTH AUSTRALIA

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Abstract

Two species of *Malva* L., *M. parviflora* L. and *M. nicaeensis* All., both from southern Europe and Asia Minor, are naturalized today in South Australia. A key distinguishing them is provided. Schomburgk's early accounts of the species of *Malva* naturalized in South Australia are discussed. *M. verticillata* L. and *M. pusilla* Sm. are excluded from the present-day naturalized Australian flora, the published records of these species by Black and Eichler for South Australia being the result of misidentifications of collections of *M. parviflora*; characters separating these species are provided. The variation in the two species in South Australia is compared with published accounts of their variation in Eurasia and elsewhere.

Four species of *Lavatera* L. occur in South Australia; *L. plebeia* Sims, a variable native species widespread throughout the state; *L. arborea* L., a naturalized southern European species common in the settled areas; *L. cretica* L., a rare species from southern Europe and Asia Minor whose status as a member of the naturalized flora of the state is established; and *L. assurgentiflora* Kell., a Californian species, whose existence in Australia in the Meningie-Coorong area is confirmed, but whose status as a truly naturalized species is in question. A descriptive key to the four species is provided.

The publication of the treatments of *Malva* L. and *Lavatera* L. in recent floras of Europe (Dalby, 1968; Fernandes, 1968), Turkey (Cullen, 1967) and Iran (Riedl, 1976) has enabled the taxonomy of the Eurasian species of these genera introduced into South Australia to be reassessed. The two genera are very closely related, and the distinction between them on the basis of the partial fusion or freedom of the epicalyx segments, in *Lavatera* and *Malva* respectively, breaks down in the European flora (Fernandes, 1968). This character, however, satisfactorily separates the two genera in South Australia.

The purpose of this paper is to clarify the taxonomy of the naturalized South Australian species of the two genera. A taxonomic investigation of the polymorphic native *Lavatera plebeia* Sims over its range of distribution is also desirable (Eichler, 1965).

The study is based on the collections in the State Herbarium of South Australia (AD), the Waite Agricultural Research Institute (ADW), and the reference herbarium of the Department of Agriculture, Adelaide.

MALVA L.

Bentham (1863) noted that four European species, *M. rotundifolia* L. (= * *M. pusilla* Sm.), *M. parviflora* L., *M. verticillata* L. and *M. sylvestris* L., had become naturalized as weeds in some parts of Australia, and gave characters diagnostic of each. Schomburgk (1871, 1878) listed these and several other species of *Malva* as growing in the Adelaide Botanic Garden, and subsequently (Schomburgk, 1879, 1889) noted that the four species had escaped from gardens and "established themselves [in South Australia], as in the old country, about hedges, roadsides, and in cultivated, as well as in waste grounds and pasture lands".

*Riedl (1976) argues that the earlier name *M. rotundifolia* L., synonymous with *M. pusilla* Sm. but rejected by many as a *nomen ambiguum*, should be reinstated as the correct name for this species. The former name certainly does not seem to warrant rejection under the newly revised *Article 69* of the International Code of Botanical Nomenclature (see *Taxon* 25 (1976) 172).

In order to judge the true identity of the four species listed by Schomburgk (1879, 1889) and to establish their status as truly naturalized plants, appropriately annotated South Australian collections from the period are required. No such specimens have been located in the South Australian herbaria, including the Schomburgk Herbarium in AD, but a search of the holdings of any of a number of herbaria, particularly at Melbourne and Kew, may prove fruitful.

Of the four species only *M. parviflora* today occurs in South Australia (see below). *M. sylvestris* could well have become established for a time in the state, for it is naturalized in the eastern states of Australia (Bailey, 1899; Curtis, 1975; Willis, 1973) and is so very distinctive by its large flowers that Schomburgk could hardly have mistaken it. *M. verticillata* (called by its synonym '*M. crispa* L.' by Schomburgk: see Dalby, 1968) is unlikely to have become naturalized in Schomburgk's time in South Australia, in view of the fact that it was excluded without explanation from Schomburgk's (1889) second weed list. In fact, Bentham (1863) appears to have wrongly applied the name *M. verticillata* to specimens of *M. parviflora* in the same way as later South Australian authors (see below), for his *M. verticillata* had mericarps identical to *M. parviflora*. Schomburgk may have followed Bentham in misapplying the name. Nevertheless, it is possible that *M. verticillata* was grown in Australian gardens at the time, as it is cultivated in Europe as a salad vegetable (Dalby, 1968) and a "green manure" (Mr C. Williams pers. comm. 22.i.1977). The name *M. rotundifolia* was probably wrongly attributed to *M. nicaeensis* All., the only other *Malva* species naturalized today in South Australia (see below), for Willis (1973) has noted a similar misapplication by past authors in Victoria.

Black (1909, 1926) considered *Malva* in South Australia to comprise two naturalized species, *M. nicaeensis* All. and *M. parviflora* L., both of which occur naturally in southern Europe and Asia Minor (Cullen, 1967; Riedl, 1976). Subsequently, two additional species, *M. verticillata* L. of China and naturalized in Europe (Hegi, 1925; Dalby, 1968) and *M. pusilla* Sm. of Europe and Asia Minor, were added to the South Australian flora by Black (1952) and Eichler (1965), respectively.

The rejection of M. verticillata and M. pusilla from the present-day South Australian flora

On the basis of Dalby's (1968) treatment of *Malva* in Europe, it is clear that only *M. parviflora* and *M. nicaeensis* occur today in South Australia. Neither *M. pusilla* nor *M. verticillata* are represented in the many collections seen from the state. These latter two species are related to *M. parviflora* by their narrow epicalyx segments. *M. verticillata* is distinguished from *M. parviflora* by its longer petals (ca. 7 mm) and the usually weakly ridged, sometimes smooth dorsal surface and entire angles of its mericarps, while *M. pusilla* differs by its only slightly accrescent calyx, its usually longer fruiting pedicels (more than 10 mm), and the entire, sharp but unwinged angles of its mericarps.

Specimens in AD from South Australia identified by Black (sheets AD97612234, AD97612177 p.p.) and subsequent botanists as *M. verticillata* clearly belong to *M. parviflora*. Similarly, Willis (1973) recognized that a Victorian specimen previously assigned to *M. verticillata* should be correctly identified as *M. parviflora*. Since no other current Australian state flora includes *M. verticillata* the species is apparently to be excluded from at least the present-day naturalized Australian flora. It is also possible that the New Zealand biennial attributed to *M. verticillata* (Allan, 1940) is also misidentified material of *M. parviflora*; the mericarps are described as being "rough on backs". The characters used in Black (1952) and Eichler (1965) to distinguish *M. verticillata* and *M. parviflora* show no correlation. The misapplication of *M. verticillata* seems to have arisen from both the ability of South Australian plants of *M. parviflora* to perennate, unlike plants in Europe (see below), and the lack of emphasis in previous European works (e.g. Hegi, 1925; Clapham, Tutin & Warburg, 1952) on the only weakly sculptured mericarps

of *M. verticillata*. In such works characters present not only in *M. verticillata*, but also in South Australian *M. parviflora*, such as robust habit, densely clustered short-pedicellate flowers and, in some works, biennial duration (only annual in other texts), are given equal diagnostic weight to the mericarp characters. The sculpturing of the mericarps in *M. parviflora* in all material examined is very uniform, and stands out against the high variability of vegetative characters. Riedl (1976) has noted a similar contrast in variability of fruit and vegetative characters in *M. rotundifolia* (= *M. pusilla*).

The only recent record of *M. pusilla* in the South Australian and Australian flora (Eichler, 1965) was based on an identification in 1962 by Mr C. C. Townsend (Kew Botanic Gardens) of the collection *Cleland AD96122031* made in 1961 from Victor Harbour. The specimen bears flowers and a few very young fruits. All pedicels are very short (2-3 mm) and the sepals are externally shortly stellate-pubescent, not long ciliate as described by Dalby (1968) for *M. pusilla*. The specimen agrees in all available attributes with *M. parviflora* and, there being no other species in Australia with which it could be confused, I conclude that it must belong to that species.

The variability of M. parviflora and M. nicaeensis

Judging from treatments of *Malva* in Eurasia (e.g. Hegi, 1925; Dalby, 1968; Cullen, 1967; Riedl, 1976), *M. parviflora* and *M. nicaeensis* are much more variable in South Australia than in their native habitat. Thus in South Australia both species perennate frequently, in both erect and prostrate forms, probably surviving for up to several years. Eurasian treatments refer to the two species as being annuals, although Dalby (1968) reports *M. nicaeensis* as an annual or biennial. The prostrate habit of these species is not noted in Europe (Dalby, 1968; Hegi, 1925; Clapham, Tutin & Warburg, 1952) or Turkey (Cullen, 1967), or in many of the floras seen of regions where the two species are naturalized. Such a habit is described, however, for *M. parviflora* in Iran (Riedl, 1976: only annual), South Africa (Henderson & Anderson, 1966; only perennial), New Zealand (Connor, 1951; only biennial), Victoria (Ewart, 1931; only annual), New South Wales (Beadle, Evans & Carolin, 1972: only annual) and Queensland (Everist, 1974: no duration stated), and for *M. nicaeensis* in Tasmania (Curtis, 1975: "annual or short-lived perennial"). Prostrate plants are widespread in South Australia, at least in the non-arid areas, for example about the suburbs of Adelaide (*M. nicaeensis*: Barker 1865-1867, 1875, 1876, 1881; *M. parviflora*: Barker 1868, 1874, 1877, 1878, 1880), about Victor Harbour (*M. nicaeensis*: Cleland AD97310072, AD97310074; *M. parviflora*: Cleland AD96122032, AD97310071, AD97310073), and near Curramulka (*M. parviflora*: Barker 1883). At the Adelaide and Curramulka sites studied, this habit has developed in each species from frequent trampling and/or mowing. It appears to be a purely environmental effect, since originally prostrate plants in the absence of mowing or trampling may develop erect branches, and *vice-versa*. Populations with small first-year to large robust-stemmed perennating plants of both erect and prostrate forms are well-represented by the mass collections Barker 1877, 1878-1880, 1883 for *M. parviflora*, and Barker 1876 for *M. nicaeensis*.

In *M. parviflora* there is notable variation in pedicel length, uncorrelated with other characters. Dalby (1968) has placed great importance on this character to distinguish species of *Malva* in Europe, and he describes *M. parviflora* as having fruiting pedicels "usually less than 10mm long". In South Australian and Northern Territory collections, longer pedicels up to 15(30) mm long are relatively common, although pedicels less than 10 mm long are the more frequent. The long pedicels may be confined to occasional (first-formed) fruits in clusters of otherwise short-pedicelled flowers and fruits (e.g. Alcock 3731, Blaylock 922, Copley 4485) or be consistent throughout the whole plant (e.g. Cleland AD966031265).

A study of several sites in the suburbs of Adelaide showed that *M. parviflora* and *M. nicaeensis* frequently occur together (Barker 1865-1881). While the two species are very similar in habit and leaf size and shape when growing side by side, the diagnostic characters of epicalyx shape and the margin and degree of fusion of the mature mericarps remain absolutely correlated (see key). In *M. nicaeensis* at these sites and in the collections in AD, however, the characters of petal length and possibly indumentum type and length show a range of variation wider than in its natural habitats in Eurasia. Thus, European plants are reported as having petals 10-12 mm long (Hegi, 1925; Dalby, 1968), as do the introduced populations in California (Munz & Keck, 1959). Remarkably, in plants from Turkey, where *M. nicaeensis* is also considered native, petals are 6-8 mm long (Cullen, 1967). In South Australia, however, petal length in *M. nicaeensis* is much more variable at (4)7-11(12) mm. In South Australian specimens with shorter petals the indumentum on the outer surface of the calyx (excluding the epicalyx and margin) is also shorter (often less than 0.5 mm), and there is a tendency for the spreading stellate hairs characteristic of *M. parviflora* to occur on the outer surface of the calyx. Riedl (1976) reports for Iran only the 1-2-armed hairs (cilia) on the calyx of *M. nicaeensis*, and stellate hairs in *M. parviflora*. It is not clear from the literature, however, whether *M. nicaeensis* elsewhere in the world has only 1-2-armed erect hairs on the outer surface of the calyx, but this applies to the only European specimen seen. Clearly a study is required of variation in these characters in *M. nicaeensis* throughout its present range of distribution, supplemented by observations of variation in both sympatric and allopatric populations of other species of *Malva*. It is noteworthy that interspecific hybrids occur in *Malva* in Europe (Dalby, 1968, 1975), and that Dalby (1975) considers it "possible that the apparent variability in some species is due, at least in part, to hybridization".

The two naturalized species of *Malva* in South Australia are distinguished as follows (the key including that variation in *M. nicaeensis* described above):

Key to the naturalized species of Malva in South Australia

- 1a. Epicalyx segments 0.8-3 times as long as broad. Outer surface of calyx with 1-2 armed erect hairs, each arm (0.2).4-1.2(1.5)mm long, rarely mixed with spreading stellate hairs. Petals (4)7-11(12) mm long. Mericarps closely appressed to each other in mature fruit, with angles on dorsal surface sharp but not winged, entire..... *M. nicaeensis* All.
- 1b. Epicalyx segments ca. 5-15 times as long as broad. Outer surface of calyx with spreading stellate hairs with (4)5-6(7) arms, each arm 0.05-0.3(0.8) mm long. Petals 3-5 mm long. Mericarps narrowly and partially separating from each other in mature fruit, with angles on dorsal surface narrowly winged.+ dentate or undulate..... *M. parviflora* L.

Representative and cited specimens

M. nicaeensis All.

SOUTH AUSTRALIA (29 specimens seen from Southern Lofty, Kangaroo Island and South-eastern regions): *Anon. s.n.*, 21.ix.1907, North Parklands, [Adelaide], AD 97612180 p.p. (Herb. Black: 'M. nicaeensis') — *Anon. s.n.*, 20.xii.1910 East Park [lands, Adelaide], AD97612180 p.p. (Herb. Black: 'M. nicaeensis'). — *Anon. s.n.*, 12.xi.1949, N. Parklands [Adelaide], AD97612181 (Herb. Black: 'M. nicaeensis'). — *Barker 1865-1867, 1871, 26.xi.1976*, Botanic Park, Adelaide, AD. — *Barker 1875, 27.xi.1976*, corner of Bayly St. and Davidson Ave., Hendon, Adelaide, AD. — *Barker 1876, 29.xi.1976*, Russian Orthodox Church grounds, Greenhill Road, Wayville, Adelaide, AD. — *Barker 1881, 29.xi.1976*, Mortlock Park Oval, Colonel Light Gardens, Adelaide, AD. — *Cleland s.n.*, 13.i.1957, 14.i.1957, Victor Harbour, AD97310072, AD97310074. — VICTORIA (only specimen): *E.F.F. s.n.*, s. dat., Melbourne, ADW1585.

EUROPE: *Smith s.n.*, ix.1925, Splott, Cardiff, Wales, ADW17683.

NORTH AMERICA: *McCarthy 20, 5.v.1953*, Davis High School, Davis, California, ADW.

M. parviflora L.

SOUTH AUSTRALIA (ca. 120 specimens seen, from all regions excluding North-western and Gairdner-Torrens Basin): *Alcock 3731, 21.ix.1971*, Oraparinna National Park, Flinders Ranges, AD. — *Anon. s.n.*, 3.xi.1906, Norwood (Osmond Terrace) [Adelaide], AD97612177 p.p. (Herb. Black: 'M. verticillata'). — *Anon. s.n.*, 3.x.1916, Hawker, AD97612178 p.p. (Herb. Black: 'M. parviflora'). — *Anon. s.n.*, 21.ix.1948, reserve

between Kintore Ave & parade ground, [Adelaide], AD97612234 p.p. (Herb. Black: 'M. verticillata'). — *Anon. s.n.*, 12.ii.1950, 5.iv.1950, garden, Brougham Place [Adelaide], AD97612179, AD97612177 p.p. (Herb. Black: 'M. parviflora'). — *Barker 1868-1870*, 26.xi.1976, Botanic Park, Adelaide, AD. — *Barker 1874*, 27.xi.1976, corner of Bayly St. and Davidson Ave., Hendon, Adelaide, AD. — *Barker 1877*, 29.xi.1976, Russian Orthodox Church grounds, Greenhill Road, Wayville, Adelaide, AD. — *Barker 1878-1880*, 29.xi.1976, Mortlock Park Oval, Colonel Light Gardens, Adelaide, AD. — *Barker 1883*, 28.xii.1976, G.T. Short's property, Mickey Flat Road, between Port Julia and Curramulka, ca. 3½km west of main Ardrossan-Port Vincent road, AD. — *Blaylock 922*, 21.viii.1968, Nectar Brook, AD. *Cleland s.n.*, 14.i.1957, Victor Harbour, AD97310071. — *Cleland s.n.*, 9.i.1961, Victor Harbour, AD96122031, AD96122032. — *Cleland s.n.*, 16.i.1957, 25.i.1965, Encounter Bay, AD97310073, AD966031265. — *Copley 4485*, 30.viii.1974, Innes National Park, Inneson, AD. — NORTHERN TERRITORY (4 specimens): *Cleland s.n.*, 16.viii.1956, Haast's Bluff Reserve, AD97213023. — *Cleland s.n.*, 15.viii.1957, Alice Springs, AD97313119. — *Nelson 1984*, 19.xii.1969, A.I.B. farm, 6 m. S. Alice Springs, AD. — *Swinbourne 454*, 19.ix.1962, east side, Alice Springs, AD. — QUEENSLAND (only specimen): *Kennedy s.n.*, 10.xi.1935, Elderslie, Winton, ADW3554.

EUROPE: *Smith s.n.*, viii.1925, Newport, Isle of Wight, England, ADW17682.

M. pusilla Sm.

EUROPE: *Aellen s.n.*, 21.ix.1934, Basel und Umgebung, Elsass, unterhalb St. Louis, AD97703529, — *Aniol s.n.*, 5.viii.1969, Silesia Inferior, Lubin Stary, ad viam "Oborowa", AD97211276. — *Anon s.n.*, s.dat., without locality, AD97703536, AD97703538.

M. verticillata L.

SOUTH AUSTRALIA (1 specimen, South-eastern region): *Williams per Barker 1884*, i.1977, Kybybolite Agricultural Research Centre, cultivated from German seed, AD.

EUROPE: *Guzikowie s.n.*, 11.ix.1966, Poland, Orawa divisions: Lipnica Wielka/Nowy Tary district, AD97050055.

LAVATERA L.

While the widespread and rather variable native species *L. plebeia* Sims and the introduced European species *L. arborea* L. have been consistently regarded as occurring in the South Australian flora, the existence of a further European introduction *L. cretica* L. has been open to question (Eichler, 1965).

L. cretica has been reported in eastern Australia from waste ground in the region of Melbourne (Willis, 1973) and Sydney (Beadle, Evans & Carolin, 1972). Black (1909, 1926) initially recorded the species as a naturalized member of the South Australia flora, presumably on the basis of several collections (mounted on the single sheet AD97612130 in the Black Herbarium) made early this century from the suburbs of Adelaide from "waste ground", "beside a path" and "under a fence". In addition, a collection *Cleland AD966031405* made in 1941 from Port MacDonnell was determined by Black as questionably belonging to the species. Despite these collections Black (1952) subsequently removed the species from the state's flora without explanation. Since that time two collections, previously misidentified as *L. plebeia* (which strongly resembles *L. cretica*), one from a vacant allotment in North Adelaide (*Sims AD96945079*), the other from a cleared roadside area by the Happy Valley Cemetery near Port Lincoln (*Alcock C31*), have been made. Mr J. Carrick (*Carrick 4020*; pers. comm. x.1976) confirms that the Port Lincoln population, first collected in 1964, flourishes today with about 30 plants, some reaching over 2 m high. It is clear that *L. cretica* is a naturalized member of the South Australian flora.

L. assurgentiflora is a native of islands offshore of California. It is naturalized in the mainland areas of that state (Wiggins, 1951; Munz & Keck, 1959), and noted in horticultural texts (e.g. Sprague, 1936; Bailey, 1949). Allan (1940) has reported its naturalization in New Zealand. The species is very distinctive by its long pedicels, spreading for the most part but distally abruptly erect, its large calyx, and its large mericarps.

Eichler's (1966) record of *L. assurgentiflora* for South Australia seems based on only a single herbarium specimen (*Anon. AD96207186*) from Meningie in the Upper South-East. The presence of the species in grey sand in gardens and yards about out-buildings in Meningie and nearby on The Coorong is now confirmed (*Barker 1897-1899*). The plants develop into densely foliose shrubs or small trees to 3m high, with robust herbaceous boles reaching 20(30)cm diameter.

Mr. J.F. Gibbs of Nooameena (pers.comm. 15.vii.1977) gave the following information. The species occurs around shacks, houses, water tanks or other similar sites along the length of The Coorong; a southern location is confirmed by Mr. B.E. Talbot-Smith, a weeds' officer at Kingston (pers. comm. 17.vii.1977), who has noted several large old trees at Chinaman Wells, about 60 km north of Kingston. Plants are used as windbreaks, but are palatable to stock and rabbits, and branches are often stripped of leaves. They are also maintained as ornamentals. While the plants at most if not all sites have probably originated from separate plantings, they produce copious seedlings which form a dense ground cover near the parents unless this is controlled by mowing. Despite this, and although the species has apparently existed in the region since before the 1930s, it has not spread away from the surrounds of the sites of its apparent plantings.

Whether *L. assurgentiflora* is considered naturalized in South Australia is open to question in view of its apparent lack of wider spread. It seems that the species once planted at a given site can maintain itself over many years, but has apparently not colonized new sites.

Key to the indigenous and naturalized species of Lavatera in South Australia

- 1a. Epicalyx segments exceeding the calyx, enlarging after anthesis. [*Leaves shallowly and broadly crenate. Indumentum stellate-villous, on the calyx 0.6-1.0(1.2) mm long. Pedicel (0.5)1-2(2.5) cm long, spreading but distally not abruptly erect. Calyx ca. 5 mm long, hardly enlarging after anthesis. Mericarps 6-7(8), 2.5-3.5(4) mm high; upper surface flatish, transversely wrinkled, with margins sharp or slightly winged, entire*]..... *L. arborea* L.
- 1b. Epicalyx segments shorter than the calyx, not enlarged after anthesis.
- 2a. Calyx tubular-campanulate, 10-18 mm long. Pedicels 2-6 cm long, spreading for most part, distally abruptly erect. Mericarps 5-7 mm high. [*Leaves coarsely dentate. Indumentum stellate-pubescent, ca. 0.1-0.3 mm long. Calyx strongly enlarging after anthesis, the tube incurved over fruit, the lobes spreading outwards, Mericarps ca. (?6)7-9; upper surface flat to roundish, smooth, with margins sharpish, entire*]..... *L. assurgentiflora* Kell.
- 2b. Calyx broadly campanulate, 5-9(10) mm long. Pedicels 0.5-2.5(5) cm long, spreading and sometimes (especially in *L. plebeia*) distally ascending. Mericarps 2-3.5 mm high.
- 3a. Indumentum stellate-pubescent, on calyx 0.1-0.3(0.5) mm long. Calyx strongly enlarging after anthesis, the tube exceeding and strongly incurved above the fruit, the lobes spreading outwards. Mericarps (9)10-14(16); upper surface usually concave or flat, rarely slightly convex, smooth or wrinkled towards margins, with margins very sharp or slightly winged, entire or crenate or dentate. [*Leaves crenulate or serrulate to serrate or dentate*]..... *L. plebeia* Sims.
- 3b. Indumentum stellate-velutinous, on calyx 0.5-1.0(1.5)mm long. Calyx tube enlarging after anthesis but not exceeding the fruit, the lobes incurved, appressed on the fruit. Mericarps (??)8-10(?11); upper surface rounded, smooth or with scattered transverse wrinkles, with margins rounded to sharp, crenulate. [*Leaves serrate to crenate-serrate*.]..... *L. cretica* L.

Representative and cited specimens

L. arborea L.

SOUTH AUSTRALIA (32 specimens, from Eyre Peninsula, Northern Lofty, Murray, Yorke Peninsula, Southern Lofty, Kangaroo Island and South-eastern regions).

EUROPE: *Adams 195*, 26.vi.1945, Pixies Cove, Cornwall, England, ADW. — *Baenitz s.n.*, 10.v.1903, Istriaca, Lussinpiccolo, AD97703520. — *Bertrand s.n.*, 15.v.1900, Gallica, Var, Roquebrune, AD97703519.

L. assurgentiflora Kell.

SOUTH AUSTRALIA (4 specimens, South-eastern region): *Anon. s.n.*, s.dat., Meningie, AD96207186. — *Barker 1897*, 15.vii.1977, garden of Mr. D. Brumby, Edward St., Meningie, AD (sterile). — *Barker 1898*, 15.vii.1977, The Coorong, ca. 10 km SSE of Meningie, ca 1-2 km SE of Noonameena Camp, garden of Thompson's house, AD. — *Barker 1899*, 15.vii.1977, The Coorong, ca. 10 km SSE of Meningie, Noonameena, surrounds of J.F. Gibb's house, AD.

NORTH AMERICA: *Rose 34015*, 3.ii.1934, California, Lake Merced, AD. — *Schallert 22907*, 27.xi.1957, Carmel, Monterey, California, AD.

L. cretica L.

SOUTH AUSTRALIA (6 specimens, from Eyre Peninsula, Southern Lofty and South-eastern regions): *Alcock C31*, 2.xi.1964, Happy Valley near [Port] Lincoln Cemetery, AD. — *Anon. s.n.* 14.x.1907, Harvey's Garden, Kensington Road, Norwood [Adelaide], AD97612130 p.p. (Herb. Black: 'L. cretica'). — *Anon s.n.*, 6.xi.1924, between Brougham Place & Ward St. N. Adel[aide], AD97612130 p.p. (Herb. Black: 'L. cretica'). — *Carrick 4020*, 22.x.1976, Happy Valley Cemetery Port Lincoln, AD. — *Cleland s.n.*, 2.xi.1941, Pt. MacDonnell, AD966031405. — *Sims s.n.*, 21.xi.1964, vacant allotment, N. Adelaide, AD96945079. — NEW SOUTH WALES (only specimen): *Rodd 3001*, 16.xi.1975, Drummoyne, AD. — VICTORIA (only specimen): *Symon 126*, 8.xi.1959, Pt. Fairy, ADW.

NEW ZEALAND: *Bangerter 5275*, 14.xi.1975, North Island, Waitemata County, Browns Bay, Glen Road, AD.

L. plebeia Sims

SOUTH AUSTRALIA (210 specimens, from all regions). — NEW SOUTH WALES (6 specimens). — NORTHERN TERRITORY (5 specimens). — QUEENSLAND (1 specimen).

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